AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims

1. (Previously presented) In a planar fuel cell stack, the improvement comprising:

means for providing co-flow of fuel and oxidant gases, and

means for mounting and surface sealing a cell independently from other stack components so as to provide an increased effective seal area and durability of the seal,

said means for providing co-flow includes an integral, internal manifold for each of the fuel and oxidant gases,

said internal manifold including aligned openings in adjacent components.

2. (Canceled)

3. (Previously presented) The improvement of Claim 1, wherein said means for mounting and surface sealing the cell includes a sealant, and a plate having an aperture and a cut-away section defining a rim area adjacent said aperture, said cell being positioned in the cut-away section of said plate such that a peripheral surface of the cell is located on said rim area and surface sealed thereto via the sealant.

4. (Original) The improvement of Claim 1, wherein said cell comprises a solid oxide fuel cell.

5. (Previously presented) A co-flow planar fuel cell stack, including:

a first interconnect plate,

a cell casing/holder plate having an aperture and a cut-away section defining a rim section located adjacent said aperture,

a fuel cell, and

a second interconnect plate,

said first and second interconnect plates and said cell casing/holder plate each having at least one pair of openings therein located in an end section thereof and aligned with an adjacent plate for co-flow of a gaseous fuel and an oxidant therethrough, said fuel cell being positioned in said cut-away section and peripherally mounted on and surface sealed to a surface of the rim section independently from other stack components.

6. (Previously presented) The fuel cell stack of Claim 5, wherein at least one of said interconnect plates is provided at least one side with members forming flow channels therebetween.

7. (Previously presented) The fuel cell stack of Claim 5, wherein each of said first and second interconnect plates and said cell casing/holder plate is provided with one pair of openings located in both end sections thereof and wherein said openings in

adjacent plates are aligned to provide co-flow of said gaseous fuel and said oxidant therethrough.

8. (Previously presented) The fuel cell stack of Claim 5, wherein said cell casing/holder plate additionally includes a pair of openings in opposite end sections thereof, and the cut-away section includes an opposite opening of each of said pair of openings.

9. (Previously presented) The fuel cell stack of Claim 5, additionally including at least one additional interconnect plate, and at least one additional cell casing/holder plate retaining another fuel cell therein, said cell casing/holders plates being sandwiched between two interconnect plates to form a stack of fuel cells, each of said at least one additional interconnect plate and said at least one additional cell casing/holder plates having pairs of openings therein and which are adapted to aligning with openings in an adjacent plate to provide co-flow of the gaseous fuel and oxidant through the entire stack of fuel cells.

Claims 10-14 (Canceled)

15. (Previously presented) A co-flow planar solid oxide fuel cell stacks, comprising:

a bottom plate having a pair of spaced openings in one end section,

a plurality of cell casing/holder plates having a pair of spaced openings in each end section thereof,

a plurality of fuel cells positioned in a corresponding one of said cell casing/holder plates between the end sections and surface sealed to the corresponding cell casing/holder plate independently from other stack components,

at least one intermediate plate having a pair of spaced openings in each end section thereof, and

a top plate having a pair of spaced openings in one end section,

wherein when stacked a pair of said spaced openings in each of said plurality of cell casing/holder plates and a pair of said spaced openings in said at least one intermediate electrode plate align with said pair of spaced openings in said bottom plate, and

wherein another pair of said spaced openings in each of said plurality of cell casing/holder plates and another pair of said spaced openings in said at least one intermediate electrode plate align with said pair of spaced openings in said top plate,

thereby forming a co-flow internal manifold for gaseous fuel and oxidant passing through said fuel cell stock.

16. (Original) The fuel cell stack of Claim 15, wherein at least said bottom plate and said at least one intermediate plate each include a plurality of spaced members forming flow channels therebetween.

17. (Previously presented) The fuel cell stack of Claim 16, wherein each of said cell casing/holder plates include an aperture and a cutaway section forming a rim surface adjacent said aperture, said fuel cell being positioned in said cutaway section and retained by said rim surface and sealed at the periphery thereof to said rim surface.

18. (Original) The fuel cell stack of Claim 17, wherein said cutaway section extends around one opening of each pair of spaced openings in said cell/holder plates.

19. (Original) The fuel cell stack of Claim 18, wherein said cutaway section includes a plurality of radial slots extending from said one opening of each pair of spaced openings.

20. (Currently amended) The improvement of claim 3, wherein said ~~cutaway~~ cut-away section is configured to completely receive the cell therein.

21. (Currently amended) The fuel cell stack of claim 5, wherein said ~~cutaway~~ cut-away section is configured to completely receive the fuel cell therein.

22. (Currently amended) The fuel cell stack of claim 17, wherein said ~~cutaway~~ cut-away section is configured to completely receive the fuel cell therein.

23. (New) A co-flow planar fuel cell stack, including:

at least three interconnect plates including two outer interconnect plates;

at least two cell casing/holder plates, each sandwiched between two of said interconnect plates and having an aperture and a cut-away section defining a rim section located adjacent said aperture; and

at least two fuel cells, each positioned in the cut-away section of a corresponding cell casing/holder plate and peripherally mounted on and surface sealed to a surface of the rim section independently from other stack components,

wherein said plates each have at least one pair of openings therein located in an end section thereof and aligned with openings in an adjacent plate for co-flow of a gaseous fuel and an oxidant therethrough, and

wherein each outer interconnect plate includes only a single pair of openings in one end section thereof, the pair of openings in one of said outer interconnect plates being operatively connected to supply gaseous fuel and oxidant to the stack of fuel cells, and the pair of openings in another of said outer interconnect plates providing discharge for said gaseous fuel and oxidant from said stack of fuel cells.

24. (New) The fuel cell stack of Claim 23, wherein said fuel cells each comprises a solid oxide fuel cell.

25. (New) The fuel cell stack of Claim 24, wherein each cut-away section extends around one of said openings of each of said pairs of openings, whereby gaseous fuel passes across a top surface of said fuel cells.

26. (New) The fuel cell stack of Claim 25, additionally including a plurality of radially extending slots extending from each of said one of said opening of each of said pairs of openings to provide gas flow distribution.

27. (New) The fuel cell stack of Claim 26, wherein certain of said interconnect plates are provided with members forming flow channels therebetween, through which the gaseous oxidant or fuel passes.